

# UNIQUE IDENTIFICATION (UID)



## **Item Unique Identification (IUID)**

**Defense Acquisition University  
February, 2006**



# Agenda

- **Unique Identification (UID); Item Unique Identification; Unique Item Identifier (UII)**
- **UID/IUID Policy**
- **Contracting for IUID**
- **Marking Items**
- **WAWF and IUID Registry**
- **Planning IUID Implementation**
- **PM's IUID Program Plan**
- **Summary, References & Resources**

*“Unique identification is the ability to physically distinguish one item from another...We view a unique identifier as a set of data for assets that:*

- *is globally unique and unambiguous*
- *ensures data integrity and data quality throughout life*



# **DoD Vision for Unique Identification (UID)**

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**For efficient and effective management of resources:**

- **Establish an Approach for DoD, its Coalition Partners, and Industry**
- **That enables consistent, reliable, and accurate assignment/use**
- **Of through life and globally unique identification that is**
- **Integrated across tangible items, real property, force management, people, organizations, locations, Etc.**



# Déjà vu All Over Again . . . Yogi Berra

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**Troy, Ohio**



**Marsh's  
Supermarket**

**June 26, 1974**

**67¢**

**Bar Codes Transformed Retail Sales and Inventory  
Management**

# UID—Integrated Situational Awareness of People, Places

Today -- No UIIs

No integrated planning view

Requirement: Capability to integrate force structure planning for identifying and constituting deployable combined force modules.

- Who is available?
- With what equipment?
- Where are they now?
- How long can we support them?



RFID Tracking



Questions

To Be State -- UIIs

Integrated planning view

People, things and property related to force structure.

Deployment and constitution options can be continuously evaluated.

Required items identified, pre-positioned and tracked with RFID.

People and things can be identified to sites and facilities for rapid deployment response



Questions answered



# DoD Vision for Item Unique Identification (IUID)

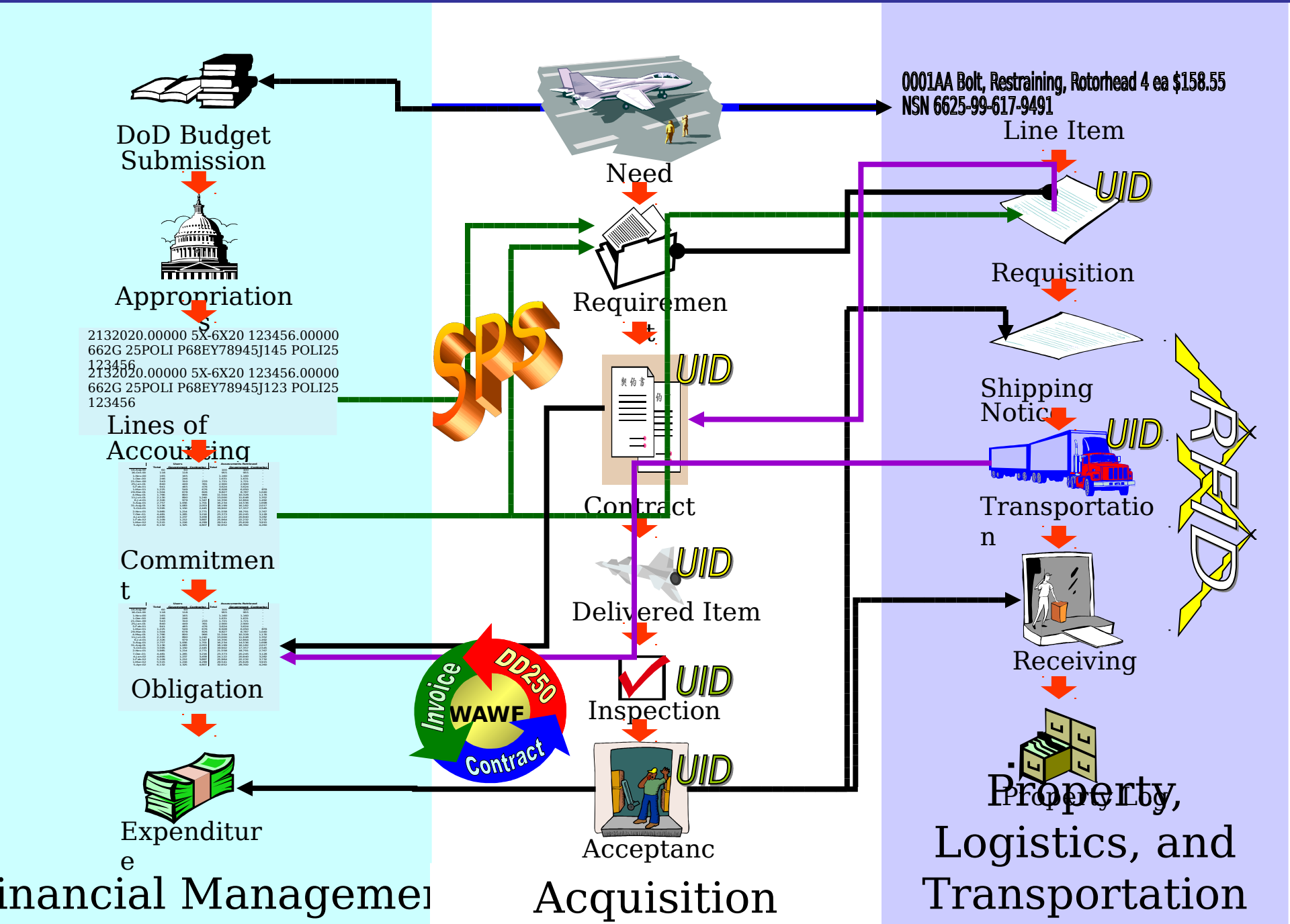
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To implement a policy establishing a ***strategic imperative for uniquely identifying tangible items*** relying to the maximum extent practical on international standards and commercial item markings and while not imposing unique government data requirements.

Uniquely identified (UID) tangible items will facilitate item tracking in DoD business systems and provide reliable and accurate data for management, financial, accountability and asset

***Effective 1 January 04 Mandatory for Solicitations***

# Enterprise IUID Digital Data Flow Potential





# Unique Item Identifier (UII) is....



... the set of data for tangible assets that is globally unique and unambiguous, ensures data integrity and data quality throughout life, and supports multi-faceted operations and

**EID** (12V)194532636

**Orig. Part No.** (1P)1234

**Serial No.** (S)786950







# Item Unique Identification (IUID) - How Is It Done?

**The UII Is Derived From Discrete Component Data Elements - The UII Is Not Required To Be Marked On The Item as Its Own Data Element**

**Coded in the Data Matrix:**



**Enterprise Identifier = 0CVA5 (CAGE Code)**

**Original Part Number= 1234**

**The ISO assigned Issuing Agency Code (IAC) can be derived using the Enterprise data qualifier. The IAC for CAGE, is "D":**

**Serial Number = 674A36458**

UII Construct 1	UII Construct 2
<i>If the Serial Number is Unique within the Enterprise Identifier</i>	<i>If the Serial Number is Not Unique within the Enterprise Identifier but is Unique within the Part Number</i>
<b>D0CVA5674A36458</b>	<b>D0CVA51234674A36458</b>



# Create and Generate the UII

The components that make up the UII are identified in the table below. Each enterprise has two options for creating the UII.

	UII Construct #1	UII Construct #2	
Based on current enterprise configurations	If items are serialized within the Enterprise	If items are serialized within Part, Lot or Batch Number	
UII is derived by concatenating the data elements IN ORDER:	Issuing Agency Code* Enterprise ID Serial Number	Issuing Agency Code* Enterprise ID	
		Original Part # Serial Number	Lot or Batch # Serial Number
Data Identified on Assets Not Part of the UII (Separate Identifier)	Current Part Number**	Current Part Number**	
<p>*The Issuing Agency Code (IAC) represents the registration authority that issued the enterprise identifier (e.g., Dun and Bradstreet, EAN.UCC). The IAC can be derived from the data qualifier for the enterprise identifier and does not need to be marked on the item.</p> <p>**In instances where the original part number changes with new configurations (also known as part number roll), the current part number may be included on the item as a separate data element for traceability purposes.</p>			



# Create and Generate the UII

Data Element	DI (Format 06)	AI (Format 05)	TEI (Format DD)
<b>Enterprise Identifier</b> CAGE/NCAGE DUNS EAN.UCC Other Agencies	17V 12V 3V 18V	95	CAG, MFR, or SPL DUN EUC
<b>Serial Number within Enterprise Identifier</b>			SER or UCN
<b>Serial Number within Original Part Number</b>	S	21	SEQ
<b>Original Part Number</b>	1P	01	PNO
<b>Lot/Batch Number</b>	1T	10	LOT or BII
<b>Concatenated UIIs</b>	25S I	8002 8003	UID
<b>Current Part Number PNR</b>	30P		240



# Defining the Scope of an UII

<b>A UII Is</b>	<b>A UII Is Not</b>
<ul style="list-style-type: none"><li>✓ A Data Element</li><li>✓ A Unique Identifier for an Item</li><li>✓ Globally Unique</li><li>✓ Unambiguous</li><li>✓ Permanent</li><li>✓ Created by Concatenating Specific Data Elements</li><li>✓ The enabler for business intelligence</li></ul>	<ul style="list-style-type: none"><li>✓ A Device for Communicating Data, such as Radio Frequency Identification (RFID) Tags, Contact Memory Buttons, Linear Bar Codes, or 2-D Data Matrices</li><li>✓ A Replacement for the National Stock Number</li><li>✓ Intelligent Data that Yields Information About the Item</li><li>✓ Transferable from one item to another</li></ul>



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# UID Policy Overview

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- **Policy memorandum released on July 29<sup>th</sup> 2003 established IUID as a mandatory DoD requirement on all solicitations issued on or after January 1, 2004.**
- **IUID is required for all property items delivered to the Government if:**
  - **Acquisition cost is more than \$5,000**
  - **Items with an acquisition cost below \$5,000, when identified by the requiring activity as DoD serially managed, mission essential, or controlled inventory**
  - **Items with an acquisition cost below \$5,000 as determined by the requiring activity**
  - **Regardless of value, any DoD serially managed subassembly, component or part embedded within an item and the “parent” item in which it is embedded**
- **Wide Area Workflow (WAWF) is the preferred method for capturing IUID data and will be a mandatory payment requirement no later than January 1, 2005**



# Key Direction from UID Policy Updates

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- **Apply IUID to legacy items in inventory and operational use**
- **All program and item managers plan for and implement IUID**
  - ACAT 1D programs submit plans by June 2005
  - All others to MDAs by January 2006
- **Plans should target FY2007 as the point by which:**
  - **All existing serialized assets** will be entered in UID registry
  - UII marking capabilities established such that marking can commence when equipment is returned for maintenance
- **Government Furnished Property (GFP) must meet UID policy requirement effective 1 Jan 2006**



# Key Direction from UID Policy Updates (Continued)

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- **DUSD (Logistics and Material Readiness) develop UID implementation plan for organic depot maintenance operations**
- **DCMA negotiate corporate/facility strategies with top 30 DoD suppliers**
- **DCMA issue UII quality assurance plan**
- **AT&L work with Services/Agencies to modernize infrastructure, reengineer business processes, revise Automated Information Systems (AIS)**



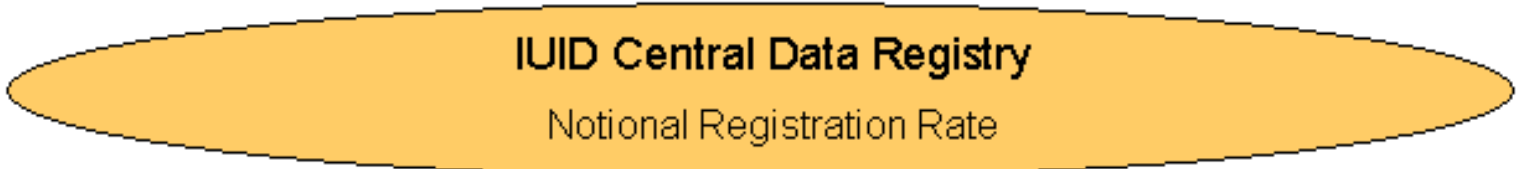


# Evolutionary Approach to Legacy

## IUID

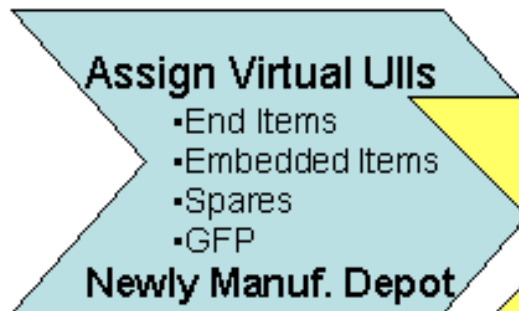
Use of Virtual Ulls

Registry Critical Mass - 2007

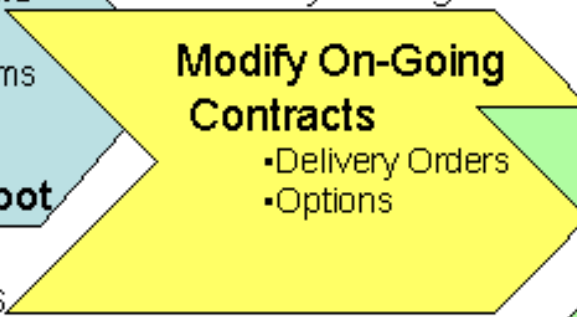


*Deployed/Stored Serially  
Managed Items*

**Parts Physically Marked**



*Newly Produced Serially &  
Non-Serially Managed Items*



*Rebuilt/Repaired Serially &  
Non-Serially Managed Items*



Few Data Matrix  
New Labels, Data Plates

**2005**

Data Matrix Ull

**2007**

- Data Plates
- New Labels
- Direct Mark

Data Matrix Ull

**2010**

- Data Plates
- New Labels
- Direct Mark

- Near Term
- Mid Term
- Long Term



# USD (AT&L) Memorandum 12 May 2005

- **Guidance for review of IUID implementation at milestone reviews**
- **Establishes requirements for applying IUID to DoD property in the possession of contractors (PIPC);**
  - Property should only be accountable in one property accountability system at a time
  - Acquisition value will be recorded and updated in the IUID Registry
    - Eliminate DD form 1662 DoD Property in the Custody of Contractors
  - IUID Registry will
    - Not be a property accountability system but provide audit trail of property in current and previous accountability systems.
    - Maintain master IUID data
    - Be updated with key transaction events but not maintain detailed transactional data
- **Develop interfaces between IUID Registry and component specific property systems**
- **Add IUID to logistics policies and integration with serialized item tracking.**
- **Clarifications in Attachments**



# USD (AT&L) Memorandum 11 May 2005

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## *Budget Instructions for UID Implementation FY 2007-2012*

- Identify UID support in applicable budget exhibit submissions in the existing budget lines in FY07-FY12 budget
  - R-2 for RDT&E
  - P-Series for Procurement
  - OP&PB-Series for Operations and Maintenance
- AT&L coordinate with PA&E to examine need to update current Financial Management Regulations (FMR) for increased visibility
- UID implementation and Program Implementation Plans will address marking and data capture aspects by:
  - Modernizing infrastructure
  - Reengineering business processes
  - Revising Automated Information Systems (AIS)



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# Contracting for UII - Chronology

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- DoD policy memorandum dated July 29, 2003 mandated the use of UID
  - Policy to be effective for new solicitations beginning January 1, 2004
- DFARS Case 2003-D081
  - First Interim Rule dtd 10 Oct 2003
  - Second Interim Rule dtd 30 Dec 2003
  - Final Rule dtd 22 Apr 2005

***IUID Mandatory for Solicitations Issued after  
January 1, 2004***



# Contracting for IUID

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## Item Unique Identification (IUID) and Valuation

- **DFARS 211.274-1 General.** Unique item identification and valuation is a system of marking and valuing items delivered to DoD that will enhance logistics, contracting, and financial business transactions supporting the United States and coalition troops. Through unique item identification policy, DoD can:
  - Achieve lower life cycle cost of item management
  - Improve operational readiness
  - Provide reliable accountability of property and asset visibility
  - Reduce the burden on the workforce



# Contracting for IUID (Continued)

- **DFARS 211.274-2 Policy for Item Unique Identification (IUID)**
  - DoD unique item identification, or a DoD recognized unique identification equivalent, is required for:
    - All delivered items where unit acquisition cost is \$5,000 or more;
    - Items less than \$5,000 when identified by the requiring activity as serially managed, mission essential, or controlled inventory;
    - Items less than \$5,000 when the requiring activity determines that permanent identification is required;
    - Regardless of value,
      - Any **DoD serially managed** subassembly, component, or part embedded within a delivered item
      - The **parent item that contains the embedded** subassembly, component, or part.



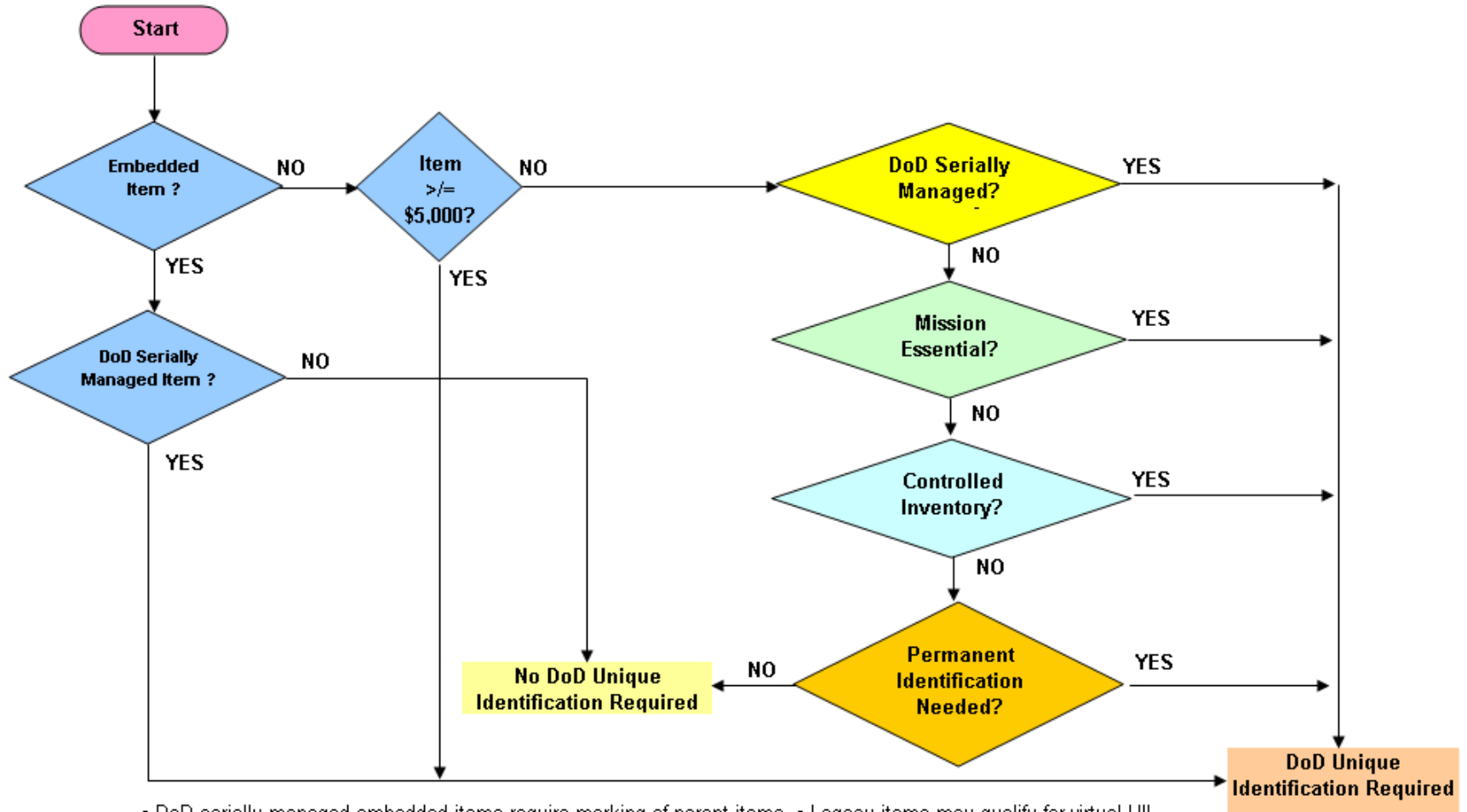
# Contracting for IUID (Continued)

- **DFARS 211.274-2 Policy for Item Unique Identification (IUID)**
  - **Exceptions.** The contractor will not be required to provide DoD unique item identification if:
    - The items, as determined by the head of the agency, are to be used to support a contingency operation or to facilitate defense against or recovery from NBC or radiological attack;
    - A determination and finding executed concluding that it is more cost effective for the requiring activity to assign, mark and register the unique item identification after delivery of an item acquired from a small business concern or a commercial item acquired under FAR Part 12 or Part 8.
      - DF by CAE for ACAT I
      - HCA for all other programs
      - DoD UII Program Office must receive a copy of the D&F (ACAT 1)





# IUID Decision Tree



• DoD serially managed embedded items require marking of parent items • Legacy items may qualify for virtual UII



# Contracting for IUID (Continued)

- **DFARS 211.274-3 Policy for Valuation.**
  - It is DoD policy that contractors shall be required to identify the Government's unit acquisition cost for all items delivered, **even if none of the criteria for placing a unique item identification mark applies**
  - The Government's unit acquisition cost is:
    - Unit price identified in the contract at time of delivery for **fixed price type line**, subline, or exhibit line items
    - Contractor's estimated fully burdened unit cost at time of delivery to the Government **for cost type or undefinitized** line, subline, or exhibit line items;
    - For items delivered under a **time and material contract**, the contractor's estimated fully burdened unit cost to the Government at the time of delivery
  - **The Government's unit acquisition cost of subassemblies, components and parts embedded in delivered items need not be separately identified**



# Contracting for IUID (Continued)

## ➤ 211.274-4 Contract Clause

- **Use the clause at 252.211-7003, Item Identification and Valuation, in solicitations and contracts that require item identification or valuation, or both, in accordance with 211.274-2 and 211.274-3.**
  - Provide the contract line, subline, or exhibit line item number and description of any item (s) below \$5,000 in unit acquisition cost for which DoD Ull or a DoD recognized equivalent is required;
  - Provide applicable attachment number when DoD unique item identification or a recognized equivalent is required for DoD serially managed subassemblies, components, or parts embedded within deliverable items
  - **If marking is not required, delete paragraphs about marking and add:**
    - For each item delivered under a contract line, subline, or exhibit line, in addition to information to be provided per Material Inspection and Receiving Report (aka "DD250") the contractor shall report Government's Unit Acquisition cost;
    - The Contractor shall submit the information in accordance with data submission procedures at <http://www.acq.osd.mil/dpap/UID/datasubmission.htm>



# Contracting for IUID (Continued)

## Clause at 252.211-7003, Item Identification and Valuation

- Paragraph a: Definitions: (as used in the clause)
- Paragraph b: The Contractor shall deliver all items under a contract line, subline, or exhibit line item.
- Paragraph c: DoD unique item identification or DoD recognized unique identification equivalents.
  - The Contractor shall provide DoD unique item identification, or a DoD recognized unique item identification equivalent, for
    - All delivered items for which the Government's unit acquisition cost is \$5,000 or more; and
    - The following items for which the Government's unit acquisition cost is less than \$5,000
    - Subassemblies, components, and parts embedded within delivered items as specified in Attachment Number \_\_\_\_\_
  - The concatenated UII and component data elements of the DoD UII or DoD recognized unique identification equivalent shall not change over the life of the item



# Contracting for IUID (Continued)

## Clause at 252.211-7003, Item Identification and Valuation

- Paragraph c: DoD unique item identification or DoD recognized unique identification equivalents. ***(Continued)***
  - Data syntax and semantics of DoD UII and DoD recognized unique item identification equivalent. The contractor shall ensure that
    - The encoded data elements (except the IAC) of the UII are marked on the item using one of the following three types of data qualifiers **as determined by the Contractor:**
      - » **Data Identifiers (DIs) per ISO/IEC International standard 15418**
      - » **Application Identifiers (AIs) per ISO/IEC International Standard 15418**
      - » **Text Element Identifiers (TEIs) per DoD collaborative solution “DD” format for use until the solution is approved by ISO/IEC JTC1 SC 31**
    - The encoded data elements of the UII conform to ISO/IEC International UII and DoD standard 15434



# Contracting for IUID (Continued)

## Clause at 252.211-7003, Item Identification and Valuation

- **Paragraph c: DoD unique item identification or DoD recognized unique identification equivalents. (Continued)**
  - **DoD UII and DoD recognized unique item identification equivalent. The Contractor shall:**
    - Determine whether to serialize within the enterprise identifier or serialize within the part, lot or batch number
    - Place the data elements of the UII per version of MIL-STD-130 Identification Marking of U.S. Military Property cited in the contract Schedule
    - Issuing Agency code
      - » shall not be placed on the item
      - » Shall be derived from the data qualifier for the EID
  
- **Paragraph d: For each item that requires UII under paragraph c, in addition to the information provided as part of the Material Inspection and Receiving Report (MIRR) the Contractor shall report at the time of delivery as part of the MIRR or associated with the MIRR (see following)**



# Contracting for IUID (Continued)

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## Clause at 252.211-7003, Item Identification and Valuation

- **Paragraph e: Embedded DoD serially managed subassemblies, components, and parts.** The contractor shall report at the time of delivery, either as part of, or associated with the MIRR, the following information: (see following)
- **Paragraph f.** The Contractor shall submit the information required by paragraphs (d) and (e) of this clause in accordance with the date submission procedures at <http://www.acq.osd.mil/dpap/UID/datasubmission.htm>
- **Paragraph g. Subcontracts.** If paragraph c (1) of this clause applies, the contractor shall include this clause including this paragraph g, in all subcontracts issued under this contract.



# UII DFARS FORMAT

## “An Item’s

### Clause at 252.219-7003, Item Identification and Valuation

## Pedigree”

### End Item Data (“d”)

- UII (Concatenated); **or** Unique Identification Equivalent
- UID type
- Issuing Agency Code
- Enterprise Identifier
- Original Part number
- Lot or Batch Number
- Current Part Number
- Current Part Number Effective Date
- Serial Number
- Government’s Unit Acquisition cost

\* In addition to information required by MIRR specified elsewhere in the contract

### Embedded Items of End Items (“e”)

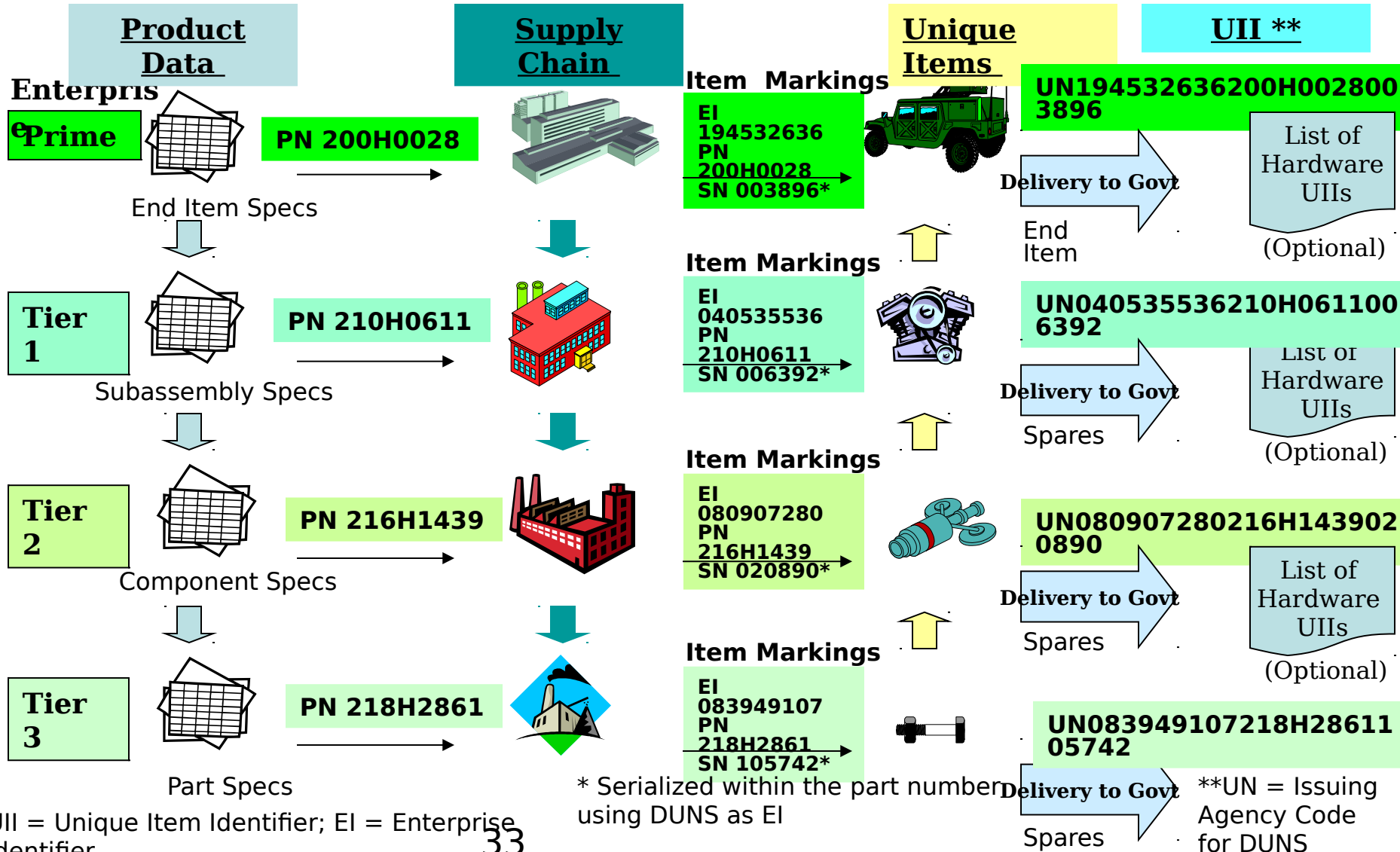
- **Parent UII** (Concatenated); Unique Identification Equivalent of the parent item (delivered)
- **Embedded Item UII** (Concatenated); Unique Identification Equivalent of the parent item
- UID type
- Issuing Agency Code
- Enterprise Identifier
- Original Part number
- Lot or Batch Number
- Current Part Number
- Current Part Number Effective Date
- Serial Number
- Unit of Measure
- Description





# IUID in Systems Acquisition

## Clause at 252.211-7003, Item Identification and Valuation ("g")





# IUID Solicitation Prep/Contract Award

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- Solicitations for Service Contracts - IUID requirements do not apply unless the service requirement involves delivery of an item.
  - Equipment involved in performance of the service may have a UII assigned. (Beginning in 2006 GFP provided to contractors will need to be appropriately marked and have a UII assigned.)
- R&D hardware that **never sees operational service nor requires logistical support** might be treated as an expense for accounting purposes and would not require a value be assigned to its UII. **The Program Manager makes that determination.**
- Operating lease items would not normally require UII marking or associated valuation, unless they are subsequently be purchased or supported by DOD.



# IUID Solicitation Prep/Contract Award

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- **Software cost will generally be associated with the hardware on which it operates and becomes part of the capitalized value of that asset.**
- **The CLIN structure must be organized to identify all end-items, either at the CLIN level, or with Sub CLINs, for more complex situations where different end-items are to be delivered within a lot.**
- **It is *not intended* that IUID and valuation information become *certified cost and pricing data*, unless it would normally be used by the contractor to estimate the contract or required payment.**
- **If IUID is required on a new contract, major modification, or procurement of equipment (such as spare parts), the RFP must include:**
  - **The DFARS clause 252.211-7003, Item Identification and Valuation**
  - **Reference to MIL-STD-130 (current version)**
  - **Include the new/revised DID**



# IUID Cost Accounting and Contract Pricing

- AIA Letter to Director of Defense Procurement and Acquisition Policy
  - Concern regarding recovery of Ull costs
  - Request DOD consider issuing guidance
- OSD issued guidance July 19, 2004
  - No one method for all contractors. Assignment of costs will depend on type of costs and the allocation of costs will be based on the benefits received or some other equitable relationship.
- General Rules for Assignment of Costs to Accounting Periods
  - Tangible Capital Assets = Capitalize/Depreciate
  - Intangible Capital Assets = Follow GAAP
  - Other
    - Recurring = Expense as period cost
    - Non-Recurring = expense/agreed to amortization



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# Marking Items

## ➤ DoD Guide to Uniquely Identifying Items

- **V1.5 June 7, 2005**

- Appendix D – The Mechanics of Unique Identification

- Addresses Constructs 1 & 2

- **Semantics** to be Machine Readable

- **Syntax** – instructions to assemble data fields to define unique identifier

- Multiple examples provided for both constructs

## ➤ **MILSTD 130M**

- DoD Standard Practice [for] Identification of U.S. Military Property

- **2 December 2005 [Supersedes “L” w/Chg 1 of 20 Dec 2004]**

- Provides “*further clarification and increased insight and guidance for the implementation of machine-readable information (MRI) for item identification marking and automatic data capture*”.

- **Application of free text identifiers is still necessary for many end users**



# IUID Implementation Includes...

**MARK**



**Process Controls**



**DATA  
CAPTURE**



**COMMUNICAT  
E**



**Symbology**

**Standard  
s  
Complian  
ce**

**Image  
Captu  
re**

**Electronic  
Data  
Interchange**



# UNIQUE IDENTIFICATION (UID)

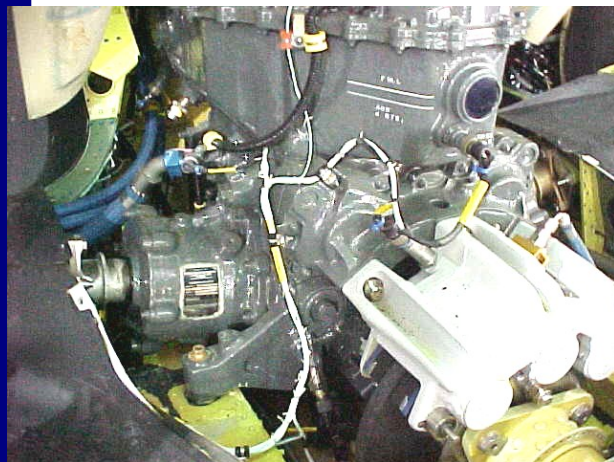


**Current**

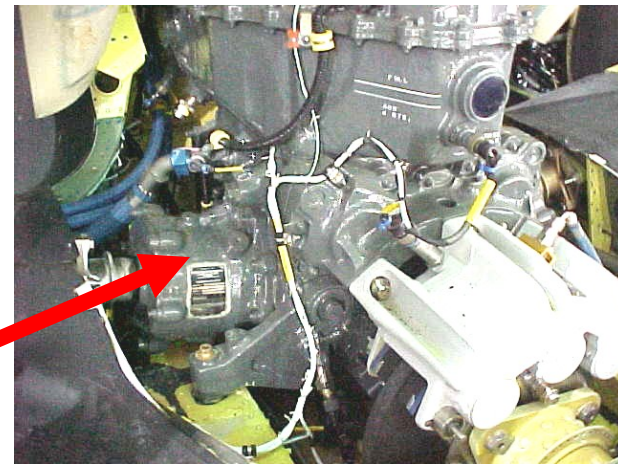


**Proposed**

MATRIX



LABEL



<<P/N xyz / COMBINER TRANSMISSION>>





# The **Direct Part Marking** Process

Examples of part marking using Labels and Direct Marking on item surface.



Examples of part marking methods include: **laser additive, laser subtractive, ink jet, dot peen, chemical etch, etc.**





# MIL-STD-130M

## Overview

- Provides criteria by which product designers develop specific item identification marking requirements
  - Marking content, size, location, and application process
- Acquiring activities must clearly state that item identification marking is required and that requirements must be in IAW MIL-STD-130
- Applies to military property produced, stocked, stored, and issued by DoD
  - Provides criteria and data content for both free text and machine readable
  - Lists additional specifications, standards, handbooks, drawings, documents and publications that form a part of the document as specified
    - Government and Non-Government (as ISO/IEC; ANSI; AIAG;
  - Lists items excluded from provisions of MIL-STD-130
    - Listed specifications and standards apply for those items



# MIL-STD-130M

## Overview (continued)

### ➤ 3. Definitions (5 Pages in MIL-STD-130)

- **3.2 Acquiring Activity.** Element of agency or command that identifies and initiates a contract requirement...and monitoring the acquisitions.
- **3.6 Commercial and Government Entity (CAGE) Code.** Five position alphanumeric code assigned to U.S. organizations which manufacture and/or control the design of items supplied to USG agencies (DoD 4100.39-M Volume 7)
- **3.11 Data Qualifier.** Character or string of characters that immediately precedes a data field that defines that data
- **3.12. Data Universal Numbering System (D-U-N-S).** A nine-digit number assigned by Dun & Bradstreet to identify a business location in the D&B global database.
- **3.16. DoD Activity Address Code (DoDAAC).** A distinct six-position alphanumeric code assigned to identify specific units, activities or organizations (DoD 4000.25-6-M)
- **3.13. Design Activity.** An organization that has, or has had, responsibility for the design of an item.



# MIL-STD-130M

## Overview (continued)

### ➤ 3. Definitions (continued)

- **3.19 Enterprise Identifier (EID).** A unique identifier used to distinguish one activity from another. Examples are code assigned to a business responsible for assigning the unique identifier to an item. Examples: CAGE, DoDAAC, D-U-N-S, NATO CAGE, and GS1 Company Prefix. ISO/IEC 15459-2 applies.
- **3.20 Free Text.** Free text is human readable information that is other than what is encoded in a linear bar code or 2D symbol.
- **3.23 Human Readable Information (HRI).** One of four types of information intended to be conveyed to a person. Appears on a label in association with a linear bar code or two-dimensional (2D) symbol)
  - Human readable interpretation
  - Human-readable translation
  - Data area titles
  - Free Text
- **3.26. Issuing agency Code (IAC).** Registration authority that issues the EID
- **3.27 Item.** A single hardware article or a single unit formed by a grouping of subassemblies, components, or constituent parts. (DFARS 252.211-7003)



# MIL-STD-130M

## Overview (continued)

### ➤ 3. Definitions (continued)

- **3. 29 Item Unique Identification (IUID).** A system of establishing unique item identifiers within DoD by assigning machine readable character string or number to a discrete item, which serves to distinguish it from other like and unlike items.
- **3.30. IUID Equivalent.** Unique identification methods in commercial use that have been recognized by DoD as item UID equivalents, also referred to as Unique Item Identifiers (UIIs):
  - Global Individual Asset Identifier (GAIA)
  - Global Returnable Asset Identifier (GRAI- when serialized)
  - Vehicle identification Number (VIN)
  - Electronic serial number (ESN - for cell telephones only)
- **3.32 Machine-Readable Information (MRI) Marking .** A pattern of bars, squares, dots, or other specific shapes containing information interpretable through the use of equipment specifically designed for that purpose. Patterns may be applied by digital imaging, infrared, ultra-violet, or other interpretable reading capabilities
- **3.51 Unique Item Identifier (UII).** The set of data elements marked on items that is globally unique, unambiguous, and robust enough to ensure data information quality throughout life and to support multi-faceted business applications and users.



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## Section 4

- **4. General Requirements**
  - **4.1. Methods of Applying.** The required marking shall be applied to an identification plate, band, tag or label securely fastened to the item or shall be applied directly to the surface of the item. The design activity shall implement the guidance in 4.3. Machine-readable information (MRI) marking.
    - Table II Marking Methods
    - Table III Criteria in Selection of Marking Methods
  - **4.2 Location, Size and Content.** Readability during normal use; legible per 4.3; specified directly or by reference to the item to be marked
  - **4.3 Permanency and Legibility.** As permanent as the normal life expectancy of the item and be capable of withstanding the environmental tests and cleaning procedures.
    - Exception: if not feasible to mark with an MRI that will survive to intended life cycle then mark to survive to intended point of rebuild



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## Section 5

### ➤ 5. Detailed Requirements

- **5.2. Machine-Readable Information (MRI) Marking.** For DFARS mandated IUID marking, the minimum mark is Data Matrix ECC 200 symbol using ISO 15434 syntax and the semantics of ISO 15418 or ATA CSDD. Items shall be individually marked as follows:
  - Preferred marking includes Data Matrix and when required by contract or order linear symbols with human-readable information. When supplemental information is required by the acquiring activity, additional information may be included as free text
  - Where space is limited, the linear symbol marking may be omitted and human-readable information abbreviated
  - To accommodate severe space limitations, human readable information may be omitted from the item and applied to the packaging
- **5.2.1 Minimum Information Content.** The MRI must contain the EID and Part or Identifying Number (PIN) of the marked item
- **5.2.1.5 Assignment of Item UID to Legacy Items.** The IUID mark is supplemental to prior marks on the item and it only needs to replicate UII related information. The EID of the organization ensuring the uniqueness must be the EID used to generate the UII versus other EID represented in prior marks.



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## Section 5

- **5. Detailed Requirements** (continued)
- **5.2.2.1. Air Transport Association (ATA).** Manufacturers that implement ATA product marking standards shall mark in accordance with:
    - For linear bar symbols: SPEC 2000
    - For Data Matrix symbols: ATA CSDD and ISO/IEC 15434 syntax with DoD assigned format DD (TEIs)
  - **5.2.2.4 GS1.** Manufacturers that implement GS 1 specifications shall mark items in accordance with GS1 specifications as applicable:
    - For Linear Bar Codes: GS1 General Specifications
    - For Data Matrix Symbols for UID item marks use the GS1 General specifications with the Data Matrix Symbol syntax in accordance with ISO/IEC 15434
  - **5.2.3.1 Linear Bar Code Symbol.** Linear Bar code Symbols shall be Code 39 symbols in accordance with ISO/IEC 16388, Code 128 symbols in accordance with ISO/IEC 1541`7 or GS1-128 (formerly UCC/EAN-128) symbols in accordance with ISO/IEC 15420.
    - Also addresses ratio of wide to narrow element





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## Section 5

- **5. Detailed Requirements** (continued)
  - **5.2.3.2. Two-Dimensional Symbol.** Two dimensional symbol shall be Data Matrix ECC 2000 in accordance with ISO/IEC 16022. Unless otherwise specified, the module size shall be no smaller than 0.0075 inch (0.19mm) and no larger than 0.025 inch (0.64mm)
  - **5.2.7 MRI Marking Quality Standards.**
    - **5.2.7.1 Linear Bar Codes**
      - **5.2.7.1.1. Printing on Label Material**
      - **5.2.7.2.1 Other Marking Methods**
    - **5.2.7.2 Data Matrix Symbol**
      - **5.2.7.2.1 Dot Peen, Laser, Laser Ablation, Electro-Chemical Etching**
      - **5.2.7.2.2 Printing on Label Material**
      - **5.2.7.2.3 Other Marking Methods**
  - **5.8 Security Classification.** When required by the acquisition document, classified items shall be marked in a conspicuous manner to provide notice that the items are subject to security restrictions. Classified markings in accordance with DoD 5220.22-M



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## Tables

- **Table II Marking Methods**
  - **Methods --- Characteristics ---- HRI/1D/2D Recommended Use**
    - Intended as a guide and use is not mandatory
- **Table III Criteria in Selection of Marking Methods**
  - Protective Finish ----Surface Roughness----Marking Method-----Remarks
    - Intended as a guide and these methods are not mandatory
- **Table IV UII Construct Business Rules**
  - UII Construct #1-----UII Construct #2
- **Table V Issuing Agency Codes for use in Unique Identification Concatenation**
  - IAC -----Issuing Agency-----UII EID
- **Table VI Data Qualifiers (Semantics Identifiers for use in UII)**
  - Data Element----Data Identifier----- Application Identifier-----Text Element Identifier
- **Table VII Data Identifiers and Their Usage by Constructs/Equivalents**
  - Data Qualifier---Construct #1---Construct #2---DoD Recognized IUID Equivalents---Current Part Number
- **Table Vii Preferred Data Area Titles**
  - Data Element ---Preferred Language



# Agenda

- **Unique Identification (UID); Item Unique Identification; Unique Item Identifier (UII)**
- **UID/IUID Policy**
- **Contracting for IUID**
- **Marking Items**
- **WAWF and IUID Registry**
- **Planning IUID Implementation**
- **PM's IUID Program Plan**
- **Summary, References & Resources**

*“Unique identification is the ability to physically distinguish one item from another...We view a unique identifier as a set of data for assets that:*

- *is globally unique and unambiguous*
- *ensures data integrity and data quality throughout life*



# What is WAWF?

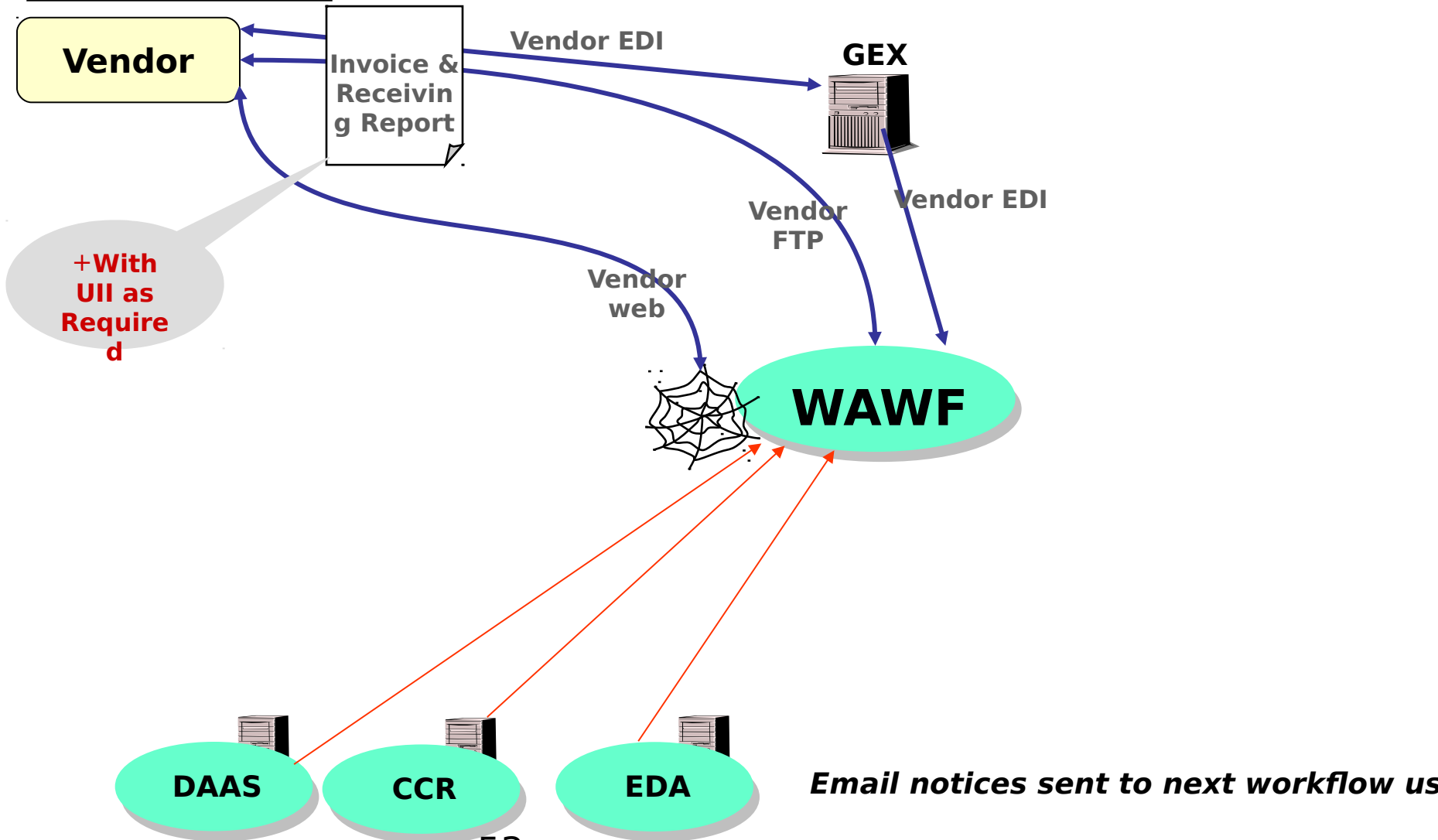
- **Not the World Wrestling Federation.**
- **It is a system for performing electronic acceptance and invoicing on DoD contracts.**
  - **Direct electronic feed to payment system**
  - **Web, EDI or FTP input**
  - **PKI enabled (password too)**
  - **Provides complete transaction visibility**





# Vendor Submits Invoice

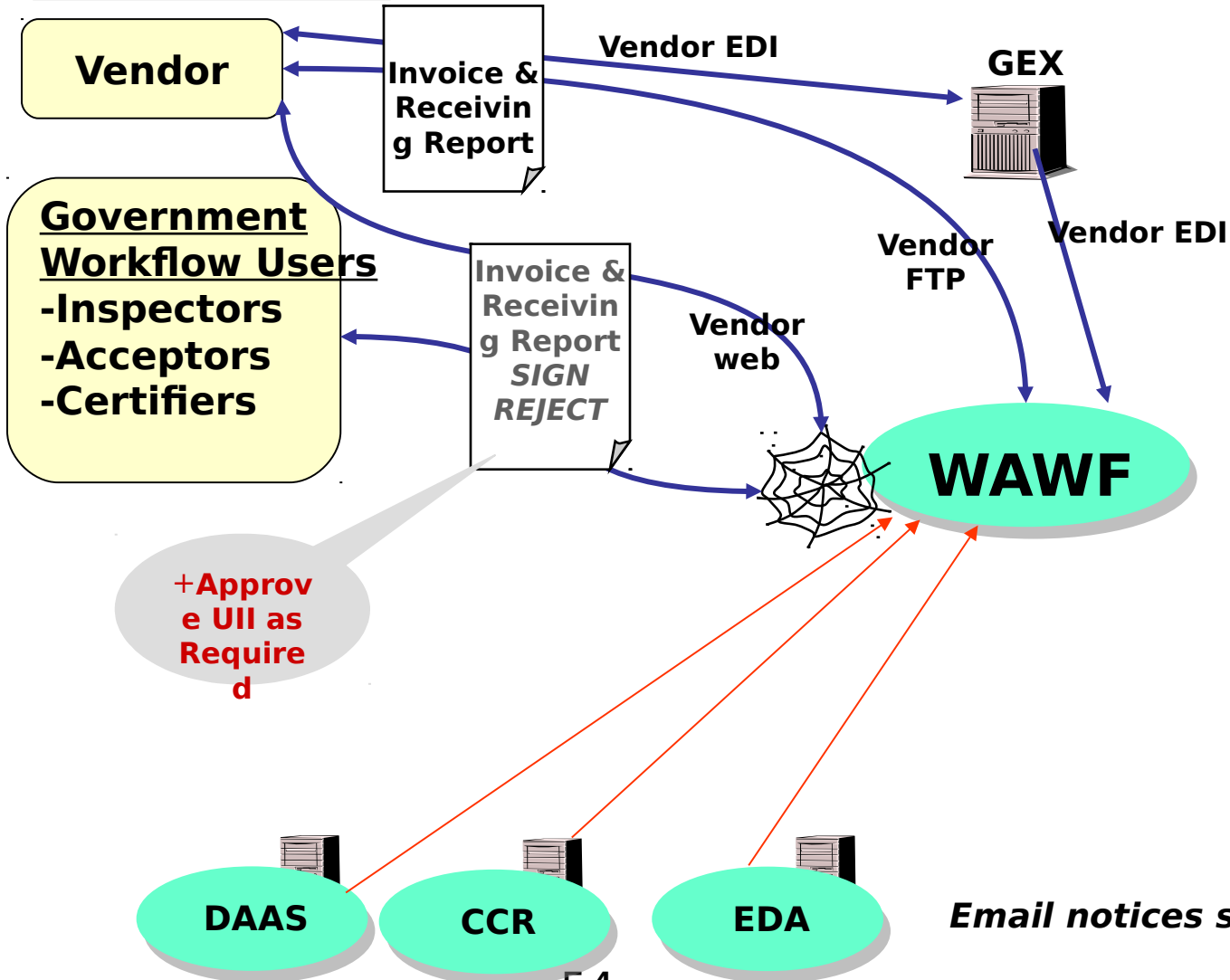
## Operational View





# Government Accepts

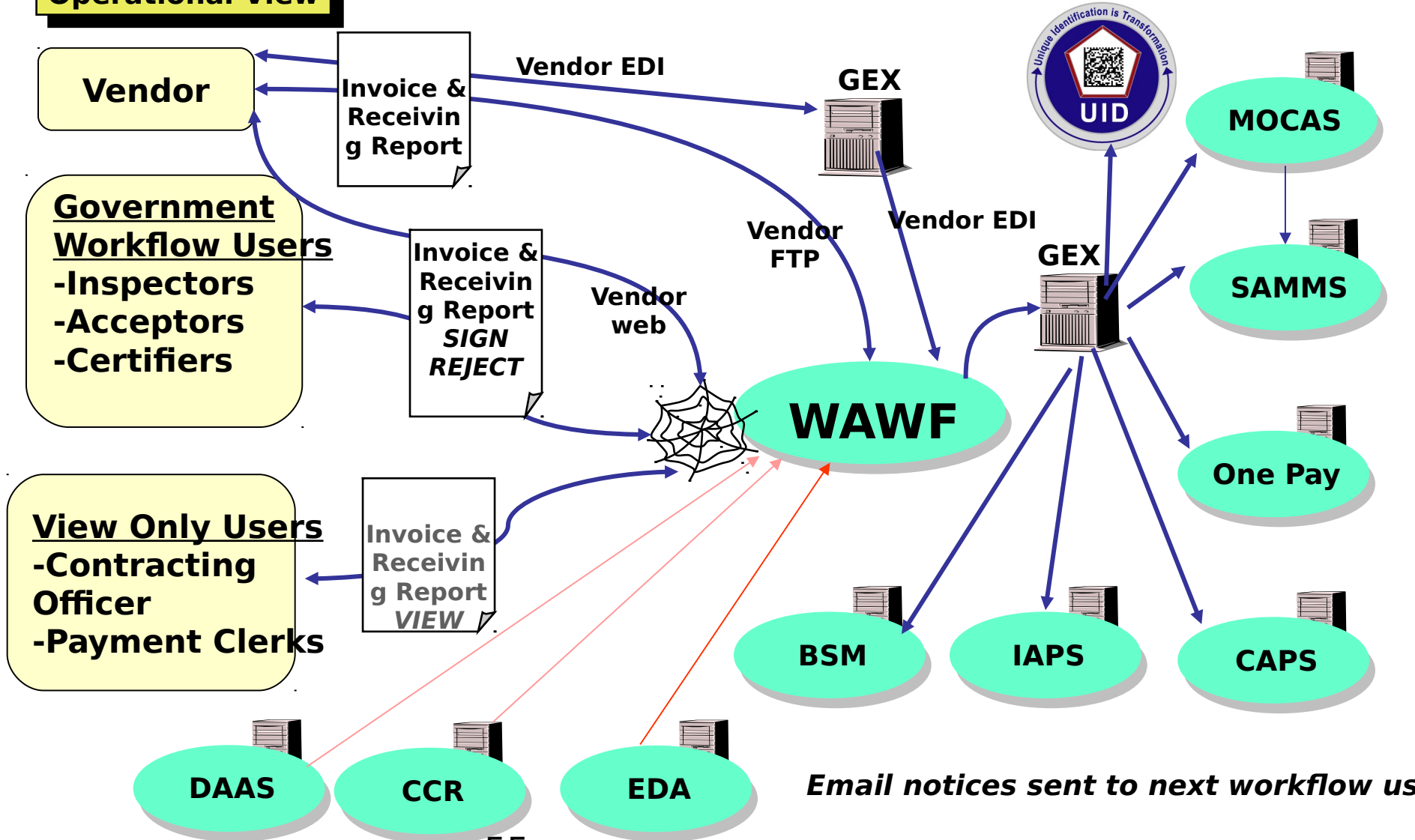
## Operational View





# System Distributes

## Operational View





# Why Electronic Invoicing?

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## ➤ **It's the Law**

➤ *The 2001 Defense Authorization act requires DoD to receive and process invoices electronically*

## ➤ **It's in the Regs**

➤ *DFARS 252.232-7003 Electronic Submission of payment requests requires electronic invoicing*

## ➤ **It makes good sense**

➤ *Electronic invoices are paid sooner and more reliably than paper invoices*





# “Why WAWF ?” - The DFARS Clauses

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## ➤ 252.232-7003 Electronic Submission of Payment Requests.

(b) Except as provided in paragraph (c) of this clause, the Contractor shall submit payment requests using one of the following electronic forms:

(1) **Wide Area WorkFlow**-Receipt and Acceptance (WAWF-RA).

## ➤ 252.246-7000 Material Inspection and Receiving Report.

(b) Contractor submission of the material inspection and receiving information required by Appendix F of the Defense FAR Supplement by using the **Wide Area WorkFlow**-Receipt and Acceptance (WAWF-RA) electronic form (see paragraph (b)(1) of the clause at 252.232-7003) fulfills the requirement for a material inspection and receiving report (DD Form 250).



# “Why WAWF ?” - Benefits

- Takes Less Time to Get Paid
  - 99.99995% on time payments
  - Interest paid
    - Without WAWF \$289 per \$million paid
    - With WAWF <2 cents per \$million paid
  - Lost Documents
    - Paper - 35,000
    - WAWF - 1
  - 60% reduction in invoice cycle times

***Navy and  
Air Force  
experiencing  
similar results***

- **Currently \$1M savings monthly**
  - **Reduced DFAS costs billed to customers**
  - **Interest avoidance**
  - **Labor savings**





# WAWF Progress to Date

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## ➤ **WAWF**

- Version 3.0.4 deployed to capture Ull for fixed price contracts-May 2004
- Version 3.0.5 deployed for cost type contracts-August 2004
- Version 3.0.7 to be deployed to capture RFID data- In Test - March 2005
- Version 3.0.8 to be deployed (no Ull/RFID changes)-In Build - August 2005
- Version 3.0.9 to be deployed to capture Virtual Ull - November 2005

## ➤ **X12 standards for vendor submission**

- Extended to accommodate Ull data
- Extended to accommodate RFID data
- 856 Shipment Notice and 857 Shipment and Billing Notice v4010

## ➤ **FTP - modified for vendor submission (User Defined Formats)**

## ➤ **DEBX/GEX**

- Maps deployed to extract Ulls from WAWF feed and forward to Registry
- Future maps for other systems - Defense Standard Supply (DSS) - March 2005 (Proof of Concept)



# WAWF Information Sources

## ➤ WAWF Websites

- Production: <https://wawf.eb.mil>
- Training:
  - Practice: <https://wawftraining.eb.mil>
  - Web Based Training: <http://wawftraining.com>
- DCMA: <http://www.dcma.mil>; select “Electronic Invoicing”

## ➤ WAWF Help Desk

- CONUS Only: 1-866-618-5988
- All: 801-605-7095
- FAX: 801-605-7453
- E-mail: [cscassig@ogden.disa.mil](mailto:cscassig@ogden.disa.mil)

## ➤ DoD Vendor Training - Carol Albany, DCMA

- On-line Demo - Workshops -- Handouts





# IUID Registry

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- Purpose:
  - Collect IUID and pedigree information of tangible items owned by DoD
  - Distribute IUID and pedigree information to DoD users
  - Provide single point of reference for DoD tangible items that have assigned Unique Item Identifier
- Operational Environment:
  - IUID Registry - database located in Battle Creek, MI
  - Operated by Defense Logistics Information Service (DLIS)
  - Resides on Business Process Network backbone
- Submit Data
  - By WAWF
  - XML or flat file through GEX
  - Manually via IUID Web Entry Site at <http://www.bpm.gov/iuid>



# IUID Registry Status

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- Implementation Timeline:
  - Concept definition - Oct 03
  - Development and Test - Nov 03 - May 04
  - Initial Operational Capability - May 04
  - Enhancement implemented - May 05
- Established Functionality:
  - UID and Pedigree data capture for new End Items
  - Source data from vendors
    - WAWF Shipment Notification
    - Direct electronic submission
    - Web-enabled manual submission
  - Current population
    - Over 90,000 Items



# Newly Released Capabilities

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- Registry Enhancement Released May 31 2005
  - Ability to update Item data
    - Current Part Number
  - Capability to identify embedded items (e.g., subassembly)
  - Capability to identify Government Furnished Property
    - Contract, Contractor, type of property
  - Capability to identify Legacy Items
  - Capability to capture original Manufacturer and Marking entity
  - Capability to capture type of mark
    - Virtual
    - Other unique marks
- Initial roll out of new functionality via xml data structure



Mark Items with IUID Data  
Elements  
Or  
Virtual IUID Defined

